

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A computer-implemented method for correcting a structured electronic document, comprising:

identifying a structural aspect of the structured electronic document that fails to conform to rules of a markup language format, the rules including one or more rules deduced from the structure of the structured electronic document and being associated with the structured electronic document;

suggesting one or more changes to a user which would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the one or more changes to the document to correct the identified non-conforming structural aspect;

receiving user input selecting a change of the suggested changes; and

applying the selected change to the structured electronic document.

2. (Original) The method of claim 1, wherein:

identifying a structural aspect of the structured electronic document includes identifying a missing, extraneous, misplaced, or mismatched structural aspect of the structured electronic document.

3. (Original) The method of claim 1, wherein:

the rules include one or more rules stored separately from and referred to in the structured electronic document.

4. (Original) The method of claim 1, wherein:  
the rules include one or more rules stored in the structured electronic document.
5. (Cancelled)
6. (Original) The method of claim 1, wherein:  
the markup language format is an XML format.
7. (Previously presented) The method of claim 6, wherein:  
the rules include one or more rules defined in an XML Schema.
8. (Original) The method of claim 6, wherein:  
the rules include one or more rules defined in an XML DTD.
9. (Currently Amended) The method of claim 1, wherein:  
suggesting changes to the user includes suggesting a plurality of changes to the user in an order determined by predefined user preferences, the predefined user preferences including ranking particular changes higher than other changes.
10. (Currently Amended) A computer-implemented method for correcting a structured electronic document, comprising:  
identifying a structural aspect of the structured electronic document that fails to conform to rules of a markup language format, the rules being associated with the structured electronic document;  
suggesting a plurality of changes to a user which would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the one or more changes to the document to correct the identified non-conforming structural aspect;  
receiving user input selecting a change of the suggested changes; and  
applying the selected change to the structured electronic document.

11. (Original) The method of claim 1, wherein suggesting one or more changes to a user comprises:

- requesting information from a user about the identified structural aspect; and
- based on input received in response to the request, suggesting to the user one or more changes that would correct the identified structural aspect.

12. (Previously Presented) The method of claim 1, wherein:

- identifying a structural aspect of the structured electronic document that fails to conform to rules associated with the structured electronic document includes identifying one or more structural aspects of the structured electronic document that fail to conform to rules associated with the document;

- receiving user input selecting a change of the suggested changes includes receiving user input selecting one or more suggested changes; and

- applying the selected change includes applying the selected changes to the structured electronic document, thereby bringing the entire structured electronic document into conformance with the rules.

13. (Currently Amended) A computer-implemented method for validating and correcting a markup language document, comprising:

recursively validating a parent element of the markup language document by:

validating attributes of the parent element,

validating a content model of the parent element, and

recursively validating one or more children of the parent element;

identifying a structural aspect of the markup language document that fails to conform to one or more rules associated with the markup language document, the one or more rules deduced from the structure of the markup language document;

suggesting one or more changes to a user that would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the one or more changes to the document to correct the identified non-conforming structural aspect;

receiving user input selecting a change of the suggested changes; and

applying the selected change to the document.

14. (Original) The method of claim 13, wherein:

the markup language document is an XML document.

15. (Original) The method of claim 14, further comprising:

checking a root element against a DOCTYPE root tag specified in the rules associated with the XML document; and

allowing a user to retag the root element using the DOCTYPE root tag.

16. (Currently Amended) A computer program product tangibly embodied in a machine-readable medium for correcting a structured electronic document, the product comprising instructions operable to cause one or more data processing apparatus to perform operations comprising:

identifying a structural aspect of the structured electronic document that fails to conform to rules of a markup language format, the rules including one or more rules deduced from the structure of the structured electronic document and being associated with the structured electronic document;

suggesting one or more changes to a user which would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the one or more changes to the document to correct the identified non-conforming structural aspect;

receiving user input selecting a change of the suggested changes; and  
applying the selected change to the structured electronic document.

17. (Original) The computer program product of claim 16, wherein:

identifying a structural aspect of the structured electronic document includes identifying a missing, extraneous, misplaced, or mismatched structural aspect of the structured electronic document.

18. (Original) The computer program product of claim 16, wherein:

the rules include one or more rules stored separately from and referred to in the structured electronic document.

19. (Original) The computer program product of claim 16, wherein:

the rules include one or more rules stored in the structured electronic document.

20. (Cancelled)

21. (Original) The computer program product of claim 16, wherein:  
the markup language format is an XML format.
22. (Original) The computer program product of claim 21, wherein:  
the rules include one or more rules defined in an XML Schema.
23. (Original) The computer program product of claim 21, wherein:  
the rules include one or more rules defined in an XML DTD.
24. (Currently Amended) The computer program product of claim 16, wherein:  
suggesting changes to the user includes suggesting a plurality of changes to the user in an order determined by predefined user preferences, the predefined user preferences including ranking particular changes higher than other changes.
25. (Currently Amended) A computer program product tangibly embodied in a machine-readable medium for correcting a structured electronic document, the product comprising instructions operable to cause one or more data processing apparatus to perform operations comprising:
  - identifying a structural aspect of the structured electronic document that fails to conform to rules of a markup language format, the rules being associated with the structured electronic document;
  - suggesting a plurality of changes to a user which would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the one or more changes to the document to correct the identified non-conforming structural aspect;
  - receiving user input selecting a change of the suggested changes; and
  - applying the selected change to the structured electronic document.

26. (Original) The computer program product of claim 16, wherein suggesting one or more changes to a user comprises:

requesting information from a user about the identified structural aspect; and  
based on input received in response to the request, suggesting to the user one or more changes that would correct the identified structural aspect.

27. (Previously Presented) The computer program product of claim 16, wherein:  
identifying a structural aspect of the structured electronic document that fails to conform to rules associated with the structured electronic document includes identifying one or more structural aspects of the structured electronic document that fail to conform to rules associated with the document;

receiving user input selecting a change of the suggested changes includes receiving user input selecting one or more suggested changes; and

applying the selected change includes applying the selected changes to the structured electronic document, thereby bringing the entire structured electronic document into conformance with the rules.

28. (Currently Amended) A computer program product tangibly embodied in a machine-readable medium for validating and correcting a markup language document, the product comprising instructions operable to cause one or more data processing apparatus to perform operations comprising:

recursively validating a parent element of the markup language document by:

validating attributes of the parent element,

validating a content model of the parent element, and

recursively validating one or more children of the parent element;

identifying a structural aspect of the markup language document that fails to conform to one or more rules associated with the markup language document, the one or more rules deduced from the structure of the markup language document;

suggesting one or more changes to a user that would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the one or more changes to the document to correct the identified non-conforming structural aspect;

receiving user input selecting a change of the suggested changes; and

applying the selected change to the document.

29. (Original) The computer program product of claim 28, wherein:

the markup language document is an XML document.

30. (Original) The computer program product of claim 29, further comprising instructions operable to cause one or more data processing apparatus to perform operations comprising:

checking a root element against a DOCTYPE root tag specified in the rules associated with the XML document; and

allowing a user to retag the root element using the DOCTYPE root tag.



31. (Previously Presented) The method of claim 10, where suggesting a plurality of changes includes suggesting changes to the user in an order determined by a calculated statistical likelihood of correctness.
32. (Previously Presented) The computer program product of claim 25, wherein:  
suggesting changes to the user includes suggesting a plurality of changes to the user in an order determined by a calculated statistical likelihood of correctness.
33. (New) A system, comprising:  
means for identifying a structural aspect of the structured electronic document that fails to conform to rules of a markup language format, the rules including one or more rules deduced from the structure of the structured electronic document and being associated with the structured electronic document;  
means for suggesting one or more changes to a user which would correct the identified non-conforming structural aspect, the suggested one or more changes being presented to the user in a predetermined suggestion template corresponding to a specific validation error, the predetermined suggestion template including logic necessary to implement the one or more changes to the document to correct the identified non-conforming structural aspect;  
means for receiving user input selecting a change of the suggested changes; and  
means for applying the selected change to the structured electronic document.
34. (New) The system of claim 33, wherein:  
identifying a structural aspect of the structured electronic document includes identifying a missing, extraneous, misplaced, or mismatched structural aspect of the structured electronic document.
35. (New) The system of claim 33, wherein:  
the rules include one or more rules stored separately from and referred to in the structured electronic document.

36. (New) The system of claim 33, wherein:  
the rules include one or more rules stored in the structured electronic document.
37. (New) The system of claim 33, wherein:  
suggesting changes to the user includes suggesting a plurality of changes to the user in an order determined by predefined user preferences, the predefined user preferences including ranking particular changes higher than other changes.
38. (New) The method of claim 1, wherein:  
the template is implemented as a list of commands.
39. (New) The method of claim 10, wherein:  
the template is implemented as a list of commands.
40. (New) The method of claim 13, wherein:  
the template is implemented as a list of commands.
41. (New) The computer program product of claim 16, wherein:  
the template is implemented as a list of commands.
42. (New) The computer program product of claim 25, wherein:  
the template is implemented as a list of commands.
43. (New) The computer program product of claim 28, wherein:  
the template is implemented as a list of commands.
44. (New) The system of claim 33, wherein:  
the template is implemented as a list of commands.